

WHAT IS CLAIMED IS:

- 1 1. A switched current steering device comprising:
2 an actual switch coupled to receive an input signal sequence that indicates set of
3 state transitions associated with the actual switch;
4 a dummy switch coupled to receive a dummy signal sequence that indicates a
5 set of state transitions associated with the dummy switch, the dummy signal sequence
6 indicating state transitions that are mutually exclusive of state transitions indicated by
7 the input signal sequence.
- 1 2. The switched current steering device of claim 1, further comprising an activation
2 unit having an input coupled to receive the input signal sequence and an output coupled
3 to provide the dummy signal sequence to the dummy switch.
- 1 3. The switched current steering device of claim 1, further comprising an activation
2 unit coupled to receive a next state of the actual switch, a present state of the actual
3 switch, and a present state of the dummy switch, and coupled to provide the dummy
4 signal to the dummy switch.
- 1 4. The switched current steering device of claim 1, further comprising:
2 a first current source coupled to the actual switch; and
3 a second current source coupled to the dummy switch,
4 wherein the second current source provides a different amount of current than
5 the first current source.
- 1 5. The switched current steering device of claim 1, further comprising:
2 a first current source coupled to the actual switch; and
3 a second current source coupled to the dummy switch,
4 wherein the second current source provides less current than the first current
5 source.
- 1 6. The switched current steering device of claim 1, wherein the actual switch and
2 the dummy switch form a portion of a Digital to Analog converter.

- 1 7. A switched current steering device comprising:
2 a plurality of actual switches coupled to receive an input signal sequence that
3 indicates set of state transitions associated with the plurality of actual switches;
4 a plurality of dummy switches coupled to receive a dummy signal sequence that
5 indicates a set of state transitions associated with the plurality of dummy switches, the
6 dummy signal sequence indicating state transitions that are mutually exclusive of state
7 transitions indicated by the input signal sequence.
- 1 8. The switched current steering device of claim 7, wherein the number of dummy
2 switches equals the number of actual switches.
- 1 9. The switched current steering device of claim 7, further comprising a switch
2 activation unit coupled to receive the input signal sequence and coupled to provide the
3 dummy signal sequence to the plurality of dummy switches.
- 1 10. The switched current steering device of claim 7, further comprising a switch
2 activation unit coupled to receive a set of next states corresponding to the plurality of
3 actual switches, a set of present states corresponding to the plurality of actual switches,
4 and a set of present states corresponding to the plurality of dummy switches, and
5 further coupled to provide the dummy signal sequence to the plurality of dummy
6 switches.
- 1 11. The switched current steering device of claim 7, further comprising an activation
2 unit corresponding to each dummy switch, each activation unit coupled to receive a
3 signal within the input signal sequence and coupled to provide a signal within the
4 dummy signal sequence to its corresponding dummy switch.
- 1 12. The switched current steering device of claim 7, further comprising an activation
2 unit corresponding to each dummy switch, each activation unit coupled to receive a next
3 state of an actual switch, a present state of an actual switch, and a present state of its
4 corresponding dummy switch, and further coupled to provide a signal within the dummy
5 signal sequence to its corresponding dummy switch.

13. The switched current steering device of claim 7, further comprising:
a first current source coupled to an actual switch within the plurality of actual switches; and
a second current source coupled to a dummy switch within the plurality of dummy switches,
wherein the second current source provides a different amount of current than the first current source.

14. The switched current steering device of claim 7, further comprising:
a first current source coupled to the an actual switch within the plurality of actual switches; and
a second current source coupled to a dummy switch within the plurality of dummy switches,
wherein the second current source provides less current than the first current source.

15. The switched current steering device of claim 7, wherein the plurality of actual switches and the plurality of dummy switches form a portion of a Digital to Analog converter.

16. In a switched current steering device that includes a plurality of actual switches and a plurality of dummy switches, a method for reducing noise comprising the step of maintaining a number of actual switch state transitions plus a number of dummy switch state transitions constant during device operation.

17. The method of claim 16, further comprising the steps of:
providing the actual switches with a first operating current; and
providing the dummy switches with a second operating current that is different from the first operating current.

18. The method of claim 16, further comprising the steps of:
providing the actual switches with a first operating current; and
providing the dummy switches with a second operating current that is less than the first operating current.

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1 19. The method of claim 16, wherein a total switching power corresponding to the
2 number of actual switches plus the number of dummy switches remains essentially
3 constant during device operation.

1 20. In a switched current steering device that includes a set of actual switches and a
2 set of dummy switches corresponding to the set of actual switches, a method for
3 reducing noise comprising the steps of:
4 determining whether an actual switch will change state during a next switching
5 cycle; and
6 changing a state of a dummy switch during the next switching cycle in the event
7 that the state of the actual switch will remain unchanged during the next switching cycle.

1 21. The method of claim 20, further comprising the step of maintaining a total
2 switching power corresponding to a number of actual switches plus a number of dummy
3 switches at an essentially constant level during device operation.